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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
SHANG, ANNAN Q

ART UNIT	PAPER NUMBER
2614	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/521,240	SUEMATSU ET AL.	
	Examiner	Art Unit	
	Annan Q Shang	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4&6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12-18, 26, 30, 32, 33, 34, 36-39 and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by **Macdonald et al (5,835,128).**

As to claim 12, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose a millimeter wave receiver for performing millimeter wave radio transmission indoors. The claimed millimeter wave transmitter comprising...is met as follows: the claimed "a millimeter wave receiving circuit..." is met by Receiving Antenna (RA) 36, note figure 3 and col. 8, line 50-65, note that RA 36 is a receiving circuit that receives 60 GHz "millimeter waves" obtained by up-converting a plurality of broadcasting waves, to be transmitted/received indoors; the claimed "a broadcasting wave demodulation circuit..." is met by Low Noise Block (LNB) 108, note col. 8, line 61-col. 9, line 44, note that LNB 108 is a demodulation circuit that down-converts the 60 GHz signal to the frequency band of the broadcasting waves; the

claimed "a connection unit..." is met by Diplexer or Port (DP) 114, note col. 9, lines 15-44, DP 114 provides connection to IRD or Set-top box (STB) 110 and also to a TV Set "an electronic apparatus" with function of receiving broadcasting and power receptor circuit receiving driving power of the 60 GHz signal through the connection unit.

As to claim 13, Macdonald further discloses where R-13, transmits radio waves of 60 GHz band, note col. 8, lines 23-49.

As to claim 14 Macdonald further discloses where the broadcasting waves include at least one of radio waves of radio frequency band of terrestrial waves and radio waves of an intermediate frequency band of satellite broadcasting, note col. 4, lines 6-18 and col. 7, lines 29-50.

As to claim 15, Macdonald further discloses where the RU 100 comprises an input connector inherent IRD or STB 110 for receiving the plurality of broadcasting waves, and DP 114 "mixing/switching circuit" outputting one of the broadcasting waves received by the IRD or STB 110, output signals from the LNB 108 "demodulation circuit" and signals obtaining by mixing the broadcasting waves and the output signals, note col. 8, lines 50-col. 9, line 38.

As to claim 16, Macdonald further inherently teaches a frequency arranging circuit that changes the frequency arrangement of the output signals from the LNB 108, note col. 9, lines 27-44.

As to claim 17, Macdonald further discloses a video/audio signal processing circuit producing at least one of a video signal and an audio signal on the basis of internal information of RU 100, note col. 9, lines 27-44, a modulation circuit modulating

the signal produced by the video/audio signal processing circuit to broadcasting wave receivable in the TV Set and a mixing circuit mixing an output wave from the modulation circuit with broadcasting waves input through the connection unit, note col. 9, lines 27-44

As to claim 18, Macdonald inherently teaches a plurality of output terminals, note col. 9, lines 27-44, note that STB 110 includes a plurality of output terminals and distributes output signals from the broadcasting LNB 108 to the plurality of terminals.

As to claim 26, Macdonald further discloses a control signal receiving circuit that receives control signal from the STB 110 or TV Set through DP 114, note col. 9, lines 27-44

As to claim 30, Macdonald further discloses a receiving circuit, that receives external control signal in accordance with the channel selected, note col. 9, lines 33-38.

As to claim 32, the claimed "a power circuit" is inherent to IRD or STB 110, note col. 9, lines 15-26, note that IRD or STB 110 supply DC signal through line 112 in accordance with channel selection by the user, note that the user selection of different frequency band causes and interrupt signal from the STB or IRD which supplies power to the plurality of circuits including RU 100.

As to claim 33, Macdonald further discloses "non-directional antenna," for receiving the 60 GHz signals, note col. 8, lines 50-65.

Claim 34 is met as previously discussed with respect to claim 26.

Claim 36 is met as previously discussed with respect to claim 32.

As to claim 37, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose an electronic apparatus capable of utilizing an output signal from a millimeter wave receiver. The claimed electronic apparatus comprising...is met as follows: the claimed "connector..." is by Diplexer or Port (DP) 114, note col. 9, lines 15-44, note that DP 114 is connected to the 60 GHz "millimeter wave" Receiving Antenna (RA) 36; the claimed "memory circuit..." is inherent to IRD or Set-top box (STB) 110, note that IRD or STB 110, stores information as to whether or not to utilize the output signal by demodulating the received signal, strips a particular television signal from the provided band of television signals according to the channel selected by the user and delivers this to the television screen; note further that the IRD or STB 110 inherently includes a power supply circuit that supplies driving power to RA 36 through DP 114 and where the power is supplied when a channel utilizing the output signal from RA 36 is selected on the basis of the information stored in the memory circuit of IRD or STB 110, note col. 9, lines 15-38.

As to claim 38, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose an electronic apparatus capable of utilizing an output signal from a millimeter wave receiver. The claimed electronic apparatus comprising...is met as follows: the claimed "connector..." is by Diplexer or Port (DP)

114, note col. 9, lines 15-44, note that DP 114 is connected to the 60 GHz "millimeter wave" Receiving Antenna (RA) 36; the claimed "a control signal transmission circuit..." is inherent to IRD or Set-top box (STB) 110, note that IRD or STB 110, note the user selected channel is a control signal indicating information provided in the IRD or STB 110 to the DP 114.

As to claim 39, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose an electronic apparatus capable of utilizing an output signal from a millimeter wave receiver. The claimed electronic apparatus comprising...is met as follows: the claimed "connector..." is by Diplexer or Port (DP) 114, note col. 9, lines 15-44, note that DP 114 is connected to the 60 GHz "millimeter wave" Receiving Antenna (RA) 36; the claimed "memory circuit..." is inherent to IRD or Set-top box (STB) 110, note that IRD or STB 110, stores information as to whether or not to utilize the output signal by demodulating the received signal, strips a particular television signal from the provided band of television signals in correspondence to the channel selected by the user and delivers this to the television screen the claimed "a control signal transmission circuit..." is inherent to IRD or Set-top box (STB) 110, note that IRD or STB 110, note the user selected channel is a control signal indicating information provided in the IRD or STB 110 to the DP 114.

As to claim 41, note the **Macdonald et al** reference figure 2, disclose a wireless television signal distribution system for distributing television signals received from a

satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose and further disclose a repeater connected to antenna receiving broadcasting for making a relay to a terminal. The claimed repeater comprising...is met as follows: the claimed "broadcasting wave input circuit..." is met by Insertion Unit (IUs) 68&78 and Mixers (Ms) 70&82, note col. 7, line 41-col. 8, line 21, note IUs 68&78 receives the plurality of broadcasting waves through Rec-H 60 and also Antenna 69 and converts the broadcast waves to broadcast signals corresponding to the broadcasting waves respectively; the claimed "frequency arranging circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together changes the frequency arrangements of the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted indoors (col. 4, lines 19-31); the claimed "power supply circuit..." is met by the bias tee 64 that provides a DC signal to Antenna 14 through Rec-H 60, note col. 7, lines 41-58; which also includes a first connection unit that connects to terminal; the claimed "power receptor circuit..." is inherent to Antenna (Ant) 14, note that Ant 14 receives DC signals "driving power" of Rec-H 60 through the connection unit.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Macdonald et al (5,835,128)** as applied to 12 above, and further in view of **Parlato (5,820,464).**

As claims 19-23, Macdonald teaches all the claimed limitations has previously discussed with respect to claim 12, and further teaches a connection unit and further inherently teaches RU 100 with antenna that rotates about an axis and having a variably settable direction, note figure 3 and col. 8, line 50-col. 9, line 27, note that Macdonald teaches teaches an IRD that is part RU 100 and IRDs are known to receiving surface rotatable about an axis and can be variably adjusted in different direction; arranged substantially in parallel to the axis of rotation

Macdonald fails to specifically teach a connection unit that is capable of at least one of rotation and bending.

However the concept of connecting unit rotating and bending is well known as taught by **Parlato**, note figures 6, 9 and col. 6, line 55-col. 7, line 25.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Parlato into the system of Macdonald in order to flexible attached devices to form one complete device and have complete control of all the devices.

As to claim 24, Macdonald further discloses receiving level detection circuit determining the receiving level in the Receiving Antenna (RA) 36, note figure 3 and col. 8, line 50-65, and outputting a signal responsive to the result of determination; a video/audio signal processing circuit producing at least one of a video signal and an

audio signal on the basis of internal information of RU 100, note col. 9, lines 27-44, a modulation circuit modulating the signal produced by the video/audio signal processing circuit to broadcasting wave receivable in the TV Set and a mixing circuit mixing an output wave from the modulation circuit with broadcasting waves input through the connection unit, note col. 9, lines 27-44, and where the video/audio signal processing circuit changes the information signal in response to the output of the receiving level detection circuit.

As to claim 25, Macdonald further discloses a Television Unit "display unit" capable of making display responsive to the output of the receiving level detection circuit and executes the display also when the RU 100 is disconnected from the connected, note col. 9, lines 15-26.

5. Claims 1-11, 40 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Macdonald et al (5,835,128)** as applied to claim 26, 30 and 34 above, and in view of **Tanishima (5,953,045).**

As to claim 1, note the **Macdonald et al** reference figure 2, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose a millimeter wave transmitter for performing millimeter wave radio transmission indoors. The claimed millimeter wave transmitter comprising...is met as follows: the claimed "a connection unit..." is met by the Receiving Horn (Rec-H) 60, note figure 2 and col. 7, lines 29-58, note that the Rec-H 60 is connected with Antenna 14 for receiving a plurality of broadcasting waves; the bias tee

64 provides a DC signal to Antenna 14 through Rec-H 60, note col. 7, lines 41-58; the claimed "broadcasting wave input circuit..." is met by Insertion Unit (IUs) 68&78 and Mixers (Ms) 70&82, note col. 7, line 41-col. 8, line 21, note IUs 68&78 receives the plurality of broadcasting waves through Rec-H 60 and also Antenna 69 and converts the broadcast waves to broadcast signals corresponding to the broadcasting waves respectively; the claimed "a broadcasting wave modulated circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together form a modulating circuit that up-converts the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted/received indoors (col. 4, lines 19-31); and the claimed "millimeter wave transmission circuit..." is met by Transmitting Antenna (TA) 95, note col. 8, lines 34-65, note that TA 95 transmits 60 GHz signals to Receiving Antenna 36.

Macdonald fails to specifically teach a transmitter that receives 60 GHz in door signals.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus on a cable side in the network and a video channel selection type radio reception apparatus on a subscriber side, where the transmission apparatus transmits/receives 60 GHz signals to/from the reception apparatus, note figures 1, 4, 5 and col. 5, lines 32-col. 6, line 1+.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald

in order to provider a transceiver to enable the user to control the transceiver and select channels.

As to claim 2, Macdonald further discloses where R-13, transmits radio waves of 60 GHz band, note col. 8, lines 23-49.

As to claim 3, Macdonald further discloses where the broadcasting waves include at least one of radio waves of radio frequency band of terrestrial waves and radio waves of an intermediate frequency band of satellite broadcasting, note col. 4, lines 6-18 and col. 7, lines 29-50.

As to claim 4, Macdonald further discloses where Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88) "frequency arranging circuit," note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together changes the frequency arrangement of the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted indoors (col. 4, lines 19-31)

As to claim 5, Macdonald further discloses video/audio signal processing circuit, modulation circuit and mixing circuit are met as previously discussed with respect to claim 17.

Claim 6 is met as previously discussed with respect to claim 17.

As to claim 7, Macdonald fails to specifically teach a receiver for receiving remote control signal from IRD or STB 110.

However, note the **Tanishima** teaches a VCSRTra and VCSRRec that receives remote control signals from VCSRRec for channel selection, note col. 5, lines 32-col. 6, line 1+.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald in order to provider a receiving unit for a remote controller, in transmitter to enable the user to control and select channels directly from the transceiver or transmitter.

As to claim 8, note the **Macdonald et al** reference figure 2, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose a millimeter wave transmitter for performing millimeter wave radio transmission indoors. The claimed millimeter wave transmitter comprising...is met as follows: the claimed "broadcasting wave input circuit..." is met by Insertion Unit (IUs) 68&78 and Mixers (Ms) 70&82, note col. 7, line 41-col. 8, line 21, note IUs 68&78 receives the plurality of broadcasting waves through Rec-H 60 and also Antenna 69 and converts the broadcast waves to broadcast signals corresponding to the broadcasting waves respectively; the claimed "a broadcasting wave modulated circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together form a modulating circuit that up-converts the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted/received indoors (col. 4, lines 19-31); and the claimed "millimeter wave transmission circuit..." is met by Transmitting Antenna (TA) 95, note col. 8, lines 34-65, note that TA 95 transmits 60 GHz signals to Receiving Antenna 36.

Macdonald fails to specifically teach a transmitter with a receiving circuit that receives an external control signal.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus on a cable side in the network and a video channel selection type radio reception apparatus on a subscriber side, where the transmission apparatus transmits/receives 60 GHz signals to/from the reception apparatus, note figures 1, 4, 5 and col. 5, lines 32-col. 6, line 1+, note that Receiver and Controller 1d is receiving circuit that receives external control signal.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald in order to provider a transceiver to enable the user to control and select channels from the transceiver.

As to claim 9-11, Macdonald further discloses a transmitter Tra-13 comprising a connector between Ant 14 and Bias Tee 64&74, connectable with Ant 14 to receive the broadcasting waves, note figure 2 and col. 7, line 29-col. 8, line 11, and Bias Tee 64&74 "power supply circuit" supplying driving power to Ant 14 through the connector and where the broadcast wave input circuit receives the plurality of broadcasting waves through the connection unit and providing power to various components of Tra-13.

Macdonald fails to specifically teach power supply circuit that operates on the basis of the external control signal, controlling execution/interruption of power supply to a plurality of circuits, utilizing storage circuit storing identification information input from the receiving circuit, where the identification information indicates identification information of IRD or STB 110 output signals from Tra-13 and power control circuit operates on the basis of the identification information.

However, **Tanishima** discloses VCSRTra and VCSRRec apparatuses that transmits/receives 60 GHz signals, where the power circuit that operates on the basis of the external control signal, controlling execution/interruption of power supply to a plurality of circuits, utilizing storage circuit storing inherent to VCSRTra, note figure 4, channel selection information "identification information" input from the receiving circuit, where the channel selection information indicates channel selection information output signals received from VCSRRec of the user to VCSRTra and power control circuit operates on the basis of the channel selection information, note figures 1, 4, 5 and col. 5, lines 32-64, note that the channel selection information that is received at VCSRTra will cause the power supply circuit to control the various component of VCSRTra accordingly.

Therefore it would have been obvious to one of ordinary skill in the art at the time of to modify Macdonald system with a power control circuit as taught by Tanishima in order to control the power to the various components of a transceiver bases on the channel selections and conserve power.

As to claim 40, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose an electronic apparatus having a function of receiving television broadcasting. The claimed electronic apparatus comprising...is met as follows: the claimed "a millimeter wave receiving circuit..." is met by Receiving Antenna (RA) 36, note figure 3 and col. 8, line 50-65, note that RA 36 is a receiving

circuit that receives 60 GHz "millimeter waves" obtained by up-converting a plurality of broadcasting waves output Transmitting Antenna 95; the claimed "a broadcasting wave demodulation circuit..." is met by Low Noise Block (LNB) 108, note col. 8, line 61-col. 9, line 44, note that LNB 108 is a demodulation circuit that down-converts the 60 GHz signal to the frequency band of the broadcasting waves.

Macdonald fails to specifically teach an inverse frequency arranger, changing the frequency arrangement of output signals of the broadcasting wave demodulation circuit, and a transmission circuit transmitting a control signal for controlling the Transmitting Antenna 95.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus (VCSRTra) on a cable side in the network and a video channel selection type radio reception apparatus (VCSRRec) on a subscriber side, where the transmission apparatus transmits/receives 60 GHz signals to/from the reception apparatus, note figures 1, 4, 5 and col. 5, lines 32-64, note an inverse frequency arranger inherent to the VCSRRec that changes the frequency arrangement of the output signals of the broadcasting demodulating circuit, note figure 5 and col. 5, line 65-col. 6, line 36 and includes a transmission circuit that transmits channel selection "control signal" for controlling the VCSRTra.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald in order to provider a transceiver to enable the user to select channels directly from the transceiver and also have a complete control of the transceiver.

As to claim 43, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose a millimeter wave communication system for performing millimeter wave radio transmission indoors. The claimed "millimeter wave communication system comprising...is met as follows: the claimed "millimeter wave transmitter..." is met by Transmitter (R) 13, note figure 2, note that R-13 is a 60 GHz "millimeter wave" transmitter for transmitting 60 GHz signals where the R-13 includes the following: the claimed "a first connection unit..." is met by the Receiving Horn (Rec-H) 60, note figure 2 and col. 7, lines 29-58, note that the Rec-H 60 is connected with Antenna 14 for receiving a plurality of broadcasting waves; the bias tee 64 provides a DC signal to Antenna 14 through Rec-H 60, note col. 7, lines 41-58; the claimed "broadcasting wave input circuit..." is met by Insertion Unit (IUs) 68&78 and Mixers (Ms) 70&82, note col. 7, line 41-col. 8, line 21, note IUs 68&78 receives the plurality of broadcasting waves through Rec-H 60 and also Antenna 69 and converts the broadcast waves to broadcast signals corresponding to the broadcasting waves respectively; the claimed "a broadcasting wave modulated circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together form a modulating circuit that up-converts the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted indoors (col. 4, lines 19-31); and the claimed "millimeter wave transmission circuit..." is met by Transmitting Antenna (TA) 95, note col. 8, lines 34-65, note that TA 95 transmits 60 GHz signals to

Receiving Antenna 36; and the claimed "a millimeter wave receiver..." is met by Receiving Unit (RU) 100, note figure 3 and col. 8, line 50-col. 9, line 27, note that RU 100 receives 60 GHz signals from transmitter R-13, and includes the following: the claimed "a millimeter wave receiving circuit..." is met by Receiving Antenna (RA) 36, note figure 3 and col. 8, line 50-65, note that RA 36 is a receiving circuit that receives 60 GHz "millimeter waves," the claimed "a broadcasting wave demodulation circuit..." is met by Low Noise Block (LNB) 108, note col. 8, line 61-col. 9, line 44, note that LNB 108 is a demodulation circuit that down-converts the 60 GHz signal to the frequency band of the broadcasting waves; the claimed "a connection unit..." is met by Diplexer or Port (DP) 114, note col. 9, lines 15-44, DP 114 provides connection to IRD or Set-top box (STB) 110 and also to a TV Set "an electronic apparatus" with function of receiving broadcasting and power receptor circuit receiving driving power of the 60 GHz signal through the connection unit.

Macdonald fails to specifically teach a transmitter that receives 60 GHz in door signals.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus on a cable side in the network and a video channel selection type radio reception apparatus on a subscriber side, where the transmission apparatus transmits/receives 60 GHz signals to/from the reception apparatus, note figures 1, 4, 5 and col. 5, lines 32-col. 6, line 1+.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald

in order to provider a transceiver to enable the user to control and select channels directly from the transceiver.

As to claim 44, note the **Macdonald et al** reference figure 3, disclose a wireless television signal distribution system for distributing television signals received from a satellite or other source to a plurality of individual receiving units within one or more multiple dwelling units and further disclose and further disclose a millimeter communication system for performing millimeter wave radio transmission indoors. The claimed communication system comprising...is met as follows: the claimed "a repeater..." by transmitter 13, note that transmitter 13 is also a repeater and includes Receiving Horn (Rec-H) 60, note figure 2 and col. 7, lines 29-58, note that the Rec-H 60 is connected with Antenna 14 for receiving a plurality of broadcasting waves; the bias tee 64 provides a DC signal to Antenna 14 through Rec-H 60, note col. 7, lines 41-58; the claimed "broadcasting wave input circuit..." is met by Insertion Unit (IUs) 68&78 and Mixers (Ms) 70&82, note col. 7, line 41-col. 8, line 21, note IUs 68&78 receives the plurality of broadcasting waves through Rec-H 60 and also Antenna 69 and converts the broadcast waves to broadcast signals corresponding to the broadcasting waves respectively; the claimed "frequency arranging circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together changes the frequency arrangements of the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted indoors (col. 4, lines 19-31); the bias tee 64 provides a DC signal to Antenna 14 through Rec-H 60, note col. 7, lines 41-58; which also includes a first connection unit that connects to external device; the

claimed "millimeter wave transmitter..." is met by transmitter (R) 13, note figure 2 and col. 7 lines 29-col. 8, line 1+, note that R-13 receives output signals of the Repeater and transmits 60 GHz "millimeter wave signals" in the transmitters 13 "millimeter wave radio transmission," Transmitter 13, includes inherently includes a second connects unit that connects the first connection unit and a second power supply circuit supplying driving power to the Repeater through the first and second connection units, note that addition connections are need to combine the Transmitter which is also a Repeater; the claimed "a broadcasting wave modulated circuit..." is met by Summer 73 (S-73), Amplifier 86 (A-86) and Tripler 88 (T-88), note col. 8, lines 23-49, the that the S-73, A-86 and T-88 together form a modulating circuit receives the broadcasting signals through the first and second connect units and up-converts the broadcasting signals to a 60 GHz "millimeter waves" signal to be transmitted/received indoors (col. 4, lines 19-31); and the claimed "millimeter wave transmission circuit..." is met by Transmitting Antenna (TA) 95, note col. 8, lines 34-65, note that TA 95 transmits 60 GHz signals to Receiving Antenna 36; the claimed "millimeter wave receiver..." is met by Receiving Unit (RU) 100, note col. 8, line 50-col. 9, line 44, note that RU 100 includes the following: the claimed "a millimeter wave receiving circuit..." is met by Receiving Antenna (RA) 36, note figure 3 and col. 8, line 50-65, note that RA 36 is a receiving circuit that receives 60 GHz "millimeter waves" obtained by up-converting a plurality of broadcasting waves output Transmitting Antenna 95; the claimed "a broadcasting wave demodulation circuit..." is met by Low Noise Block (LNB) 108, note col. 8, line 61-col. 9, line 44, note that LNB 108 is a demodulation circuit that down-converts the 60 GHz signal to the

frequency band of the broadcasting waves; the claimed "third connection unit..." is met by Diplexer or Port (DP) 114, note col. 9, lines 15-44, that is connectable to external apparatus; the claimed "second power receptor circuit..." is inherent to IRD or Set-top box (STB) 110, note col. 9, lines 15-44, note that IRD or STB 110 provides DC power of RU 100 through the DP 114.

Macdonald fails to specifically teach a transmitter that receives 60 GHz in door signals.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus on a cable side in the network and a video channel selection type radio reception apparatus on a subscriber side, where the transmission apparatus transmits/receives 60 GHz signals to/from the reception apparatus, note figures 1, 4, 5 and col. 5, lines 32-col. 6, line 1+.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald in order to provider a transceiver to enable the user to control and select channels directly from the transceiver.

As to claim 45, Macdonald further discloses a control signal transmission circuit, transmitting a control signal through the connection unit, note col. 7, line 41-col. 8, line 20, note the channel information contains control signals

6. Claims 27-29, 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Macdonald et al (5,835,128)** as applied to claim 26, 30 and 34 above, and further in view of **Tanishima (5,953,045).**

As to claim 27 and 28, Macdonald teaches all the claimed limitation as previously discussed with respect to claim 26 and further teaches a Receiving Unit (RU) 100 for receiving 60 GHz signals but fails to specifically teach a transmission circuit transmitting a control signal for controlling a millimeter and transmitting a control signal received from STB 110 or TV Unit to transmitter R-13.

However, note the **Tanishima** reference figure 1 discloses a video channel selection type radio transmission apparatus on a cable side in the network and a video channel selection type radio reception apparatus on a subscriber side, where the reception apparatus receives/transmits 60 GHz signals from/to the transmission apparatus, note figures 1, 4, 5 and col. 5, lines 32-col. 6, line 1+.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Tanishima into the system of Macdonald in order to provider a transceiver to enable the user to communicate with other transceivers to select the desire channels.

Claim 29 is met as previously discussed with respect to claim 32.

As to claim 31 Macdonald teaches all the claimed limitation as previously discussed with respect to claim 30, and further teaches outputting 60 GHz signals from Tra-14, but fails to specifically teach a RU 100 with a transmission circuit for transmitting a control signal for controlling Tra-14, However this limitation is previously discussed with respect to claim 27.

As to claim 35 Macdonald teaches all the claimed limitation as previously discussed with respect to claim 34, but fails to specifically teach a RU 100 with a

transmission circuit for transmitting a control signal for controlling Tra-14, However this limitation is previously discussed with respect to claim 27.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Westbrook et al (6,525,855) disclose telecommunications system simultaneously receiving and modulating an optical signal.

Hughes et al (6,553,020) disclose communication system and method.

Kanamori (6,237,380) discloses bending device having a control mechanism for controlling joint-type robots of the bending device.

Palmer (6,201,820) discloses optically modulated laser beam transceiver.

Sole et al (6,150,987) disclose antenna assembly.

Grossman et al (5,929,814) disclose antenna assembly and communications device.

Balzano et al (5,535,435) disclose communication device using antenna having an offset.

Allen (5,363,116) discloses support assembly for portable microwave antenna.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-2156**. The examiner can normally be reached on 700am-500pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone numbers

for the organization where this application or proceeding is assigned are **703-746-5991** for regular communications and **703-746-5991** for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service whose telephone number is **703-306-0377.**

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July 12, 2003

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